DOCUMENT RESUME

ED 237 061 IR 010 885

AUTHOR Tolliver, J. Howard; And Others
TITLE Precision Teaching Project. Formative Evaluation.
INSTITUTION District of Columbia Univ., Washington, D.C.
PUB DATE Aug 82
NOTE 111p.; Best copy available.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Behavioral Objectives; Emotional Disturbances; Formative Evaluation; Individualized Instruction; *Inservice Teacher Education; *Institutes (Training Programs); Mental Retardation; Postsecondary Education; *Precision Teaching; Program Descriptions; Program Evaluation; Questionnaires; *Special Education; *Special Education Teachers; Surveys
IDENTIFIERS Personalized System of Instruction; *University of the District of Columbia

ABSTRACT

This evaluation report describes a project that used an innovative approach called precision teaching to train personnel who provide services to identified emotionally disturbed, mentally retarded, and cross-categorical children. Precision teaching is a data-based behavioral instructional program which encompasses pinpointing target behaviors, developing precise teaching interventions, charting rates of response, and evaluating changes. The major components of the training program were summer institutes with follow-up practicums and seminars during the school year. The intensive 4-week summer session offered the core content as if each trainee were a class of one, a process in which the trainee was taught how to learn by using an individualized instructional program. Features of this format included written study guides, mastery learning, self-pacing, the use of lectures or demonstrations and learning motivators, and the use of individual tutorials to provide one-to-one feedback on each unit of work. Practicums and seminars were conducted in both large and small groups. A discrepancy evaluation model was used to provide information for project modification or redesign. Issues generated by the report are outlined and three major recommendations are offered. Nine references and numerous project forms and questionnaires are appended. (LMM)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

SP

ED237061

Precision Teaching Project
Formative Evaluation

AUGUST 1982

Precision Teaching Institute

College of Education & Human Ecology

University of the District of Columbia

IR010 885

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

James H. Tolliver

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TABLE OF CONTENTS

Introduction 3
Terminology 10
Program Design 18
Program Calendar 23
Evaluation Management 24
Selected Project Goals 29
Proposed Output 35
Goal Orientation Results 43
Summer Institute Pretest and Posttest Results .. 46
Participant Self-Appraisal 49
Inservice Institute Program Evaluation 51
Conclusion 54
Issues and Recommendations 55
References and Bibliography 59

APPENDICES

A Program Announcement..... 60
B Application for Participation..... 62
C Charting Conventions 65
D Goal Orientation Assessment Form 68
E Teacher Competency Self-Analysis 73
F Teacher Opinion Survey 79
G Participant Self-Appraisal 83
H Inservice Program Evaluation 90
I Summer Terminology Posttest 94
J Contractual Agreements 97
K Sample Workshop Content 100
L Sample Probes 106

INTRODUCTION

Today the public demands a more rigorous, systematic approach to teaching with performance a top priority in evaluation. Evaluations should help teachers be successful in their teaching. Joyce and Showers (1980) listed five steps in inservice training which will likely improve teaching. The steps identified were:

1. present the theory or description of the new skill;
2. model or demonstrate the new skill;
3. provide opportunities to practice the skill;
4. provide meaningful feedback; and
5. assist teachers in the application of the skill or behavior with a specific subject or class.

Ghory & Ward (1981) attempted to correlate teachin practices and classroom variables relative to achievement. By applying precise and demanding standards the teachers performance improved significantly. The teachers with the greatest need showed improvement across all variables and significantly improved on 18 of 28 variables. It was concluded that the Effective Teaching Practices training program helped teachers having difficulty to improve their performance on key variables related to

accelerated student achievement. They concluded that:

> Teachers with the greatest difficulties need conditions where they are encouraged to set more precise and demanding standards for their work.

Bradstetter et al. (1976) explained that by increasing the frequency of desired behaviors could be viewed as an indication of learning and could be used to analyze reinforcement schedules. It was found that much variation in rate of response was due to differences in the way instructional cues were given as children worked on a variety of materials. Rate sheets were developed on which instructional cues were mazed systematically. The systematic arrangements soon became valuable for skills acquisition and not just for measurement frequencies. The Precision Teaching format is characterized by (1) a systematic arrangement of instructional cues largely taken from programmed learning, (2) with continuous measurement of frequency and (3) the careful management of reinforcement.

The Great Falls Project (1976) developed and implemented a Precision Teaching Program for the delivery of educational services to children with learning deficits in grades K-3 in three schools. Of the children

screened in the three schools approximately 17% were identified received daily twenty to thirty minutes of individual instruction. Using the one-tailed t test all grades showed significant gains in two of three academic areas at each of the three schools in the experiment.

The University of the District of Columbia Precision Teaching Institute proposal was submitted to fulfill the requirements for an inservice delivery for Special Education State Schools and state supported programs in the District of Columbia. The proposal was submitted in accordance with a publicized RFP (Request For Proposals) dated August 29, 1980.

By subsequent agreement, a Precision Teaching Institute was developed by the faculty of the Department of Special Education, College of Education & Human Ecology. The Institute was to train three cycles of personnel who provided services to identified emotionally disturbed, mentally retarded and cross-catagorical children.

The UDC Precision Teaching Institute's core content was to be a modified Personalized System of Instruction (PSI). The program format was to enhance the competencies of inservice teachers as the new innovation built upon the foundation already established by their orientation to Competency Based Curriculums which are modeled on the mastery learning principles.

Precision Teaching is a data-based behavioral instructional program which encompasses pinpointing target behaviors, developing precise teaching interventions, charting rates of response and evaluating changes. The major components of the training program were Summer Institutes, Seminars and Practicums. The first two Summer Institutes began in July, 1981, with follow-up Practicums and Seminars (teach-ins) in the months of September through May, 1982. The third cycle will begin in the summer of 1982.

The Summer Institute offered the core content as if each trainee was a class of one, a process in which the trainee was actually taught how to learn by using an individualized instructional program. Some of the features of the format were: (1) an emphasis on written study guides; (2) a focus on a mastery philosophy of

learning that allows the trainee to progress unit by unit as mastery is achieved; (3) self-pacing, giving recognition of individual rates of learning; (4) the use of lectures or demonstrations and learner motivator; and (5) the use of individual tutorials where each trainee received one-to-one feedback on performance for each unit of work.

Practicums and Seminars were conducted in both large and small groups. Large group formats provided opportunities for reinforcement training exercises and for surfacing and identifying problems in implementing the new innovation on-site. Small support groups were a continuation of the Summer Institutes providing for more direct sharing of results and review of charts of handicapped student's progress. The major teaching strategy during the Practicum was individual monitoring and consultation from university faculty and on-site assistance in the trainee's public school classroom.

The methods described in the proposal were designed to (1) tap knowledge of specific needs of public school teachers through a needs assessment; (2) provide a sound methodological and curriculum approach by instructing personnel in Precision Teaching; and (3) to monitor their progress in implementing learning at their work sites.

In utilizing effective techniques and skills in teacher education it is important for school personnel and university personnel to be aware of the importance of precise strategies while learning how to integrate them into the daily school curriculum.

Inservice education is the main artery by which new skills, knowledge and attitudes are transferred through the teacher to the classroom participants. In addressing that endeavor of inservice programs, this project concentrated on (1) program features which are consistent with effective teaching and learning; (2) a systematic program approach; (3) effective collaborative decision-making processes and (4) sound organizational field-based approaches. In addressing those program features the project demonstrated and documented an effective inservice program through discussions, handouts and seminar presentations. Participants focused on qualitative criteria for the design, development, implementation, management and evaluation of an effective teaching innovation.

The evaluation component of the project is committed to documentation and dissemination of project efforts that focused on more effective use of the

evaluation as a resource for project modification or redesign with discrepancies being the keystone justification. In this formative discrepancy evaluation there will be an attempt to (1) identify various roles of evaluation and the evaluator; (2) establish a desirable relationship between the project director and the evaluator; (3) recognize the evaluation and the evaluator as a management improvement resource.

The evaluation herein accurately describes systemic facts and characteristics of a project that used an innovative approach called Precision Teaching. The accumulated data, situations and events are reported descriptively without necessarily attempting to test hypotheses, make predictions and explain relationships and implications.

The purpose for this formative descriptive evaluation report is to (1) report the findings of collected detailed factual information that best describes the existing innovation; (b) to identify problems or justify current conditions and practices; and (c) to determine what benefits the experience offers in making future plans and decisions.

TERMINOLOGY

The new language of Precision Teaching replaces some of the old language of behavior modification. Even though it is helpful to have a clear understanding of both sets of terminologies it is beyond the scope of this report and even the project to give the complete terminology of either. However, to understand the scope of the project some samples of changes in terminology are shown here:

A *movement* is any change in position. Changes in position may be described either in terms of the actual physical elements of the movement (i.e., body parts and muscles involved, sequence of muscle action, changes in skeletal positions) or in terms of the *critical effect* (i.e., what the behavior does or accomplishes). SEE APPENDIX C, CHARTING CONVENTIONS.

A *movement cycle* is a behavior which has at least the following characteristics:

1. It involves directly observable movement.
2. It has a precisely defined and easily identified beginning and end.
3. It is repeatable, having a definite cycle.

SEE APPENDIX C, CHARTING CONVENTIONS.

A *movement cycle* which appears to be "responsive" to some part of the environment is called a *response*.

An *event before* the movement cycle which proves effective in getting the movement started (or preventing it from happening) is called a *stimulus* - it "stimulates" the child in some way.

Arranged events, or simple *events after* a movement cycle which appear to encourage or discourage the movement, are called *consequences*.

An *arrangement* between a child's movement and the events which follow it is called a *contingency* if it proves to make a difference in the child's behavior.

Additional terminology contained in this innovation will be recognized by those who are familiar with Individualized Instruction, Personalized Instruction, Competency Based Curriculums of instruction and Public Law 94-142.

Other samples of the new terminology are:

PERCENTAGE (%)

A statement of proportion. Usually a statement of the proportion of correct or error movements relative to the total number of opportunities to move. Used primarily as an expression of accuracy and to correct for differences in the total number of opportunities provided for a child's movements in two or more assessments one wishes to compare. To calculate percentage: divide the behavior count by the total number of opportunities to behave and then multiply by 100:

Percentage (%) = (behavior count ÷ opportunities to behave) X 100.

Example: A child completes 20 items correctly on a 40-item assessment probe his percentage accuracy = (40 ÷ 20) X 100 = 50% correct.

PERFORMANCE CEILING

The highest performance achieved by a child in a particular tool movement cycle. The child's rate on more advanced tasks cannot exceed his performance ceiling in the tool movement cycle required by the task. Unlike record ceilings (which are determined by the way we measure the child's performance), performance ceilings are determined by the child. We can only

estimate them by measuring the child's performance on the tool movement cycles in question, and we can change them by giving the child more practice in the tool movement cycle. Generally, it is suggested that a child's tool movement cycle rates be increased to a level between X 1.50 and X 2.00 greater than the criterion rates set for the tasks requiring that movement cycle. By insuring fluency in tool movements, the child's performance ceiling will not be an inhibiting factor in the development of more advanced skills.

PRECISION TEACHING

A set of standard procedures for analysis of behavior introduced by O.R. Lindsley in 1964. Precision Teaching consists of these steps: (a) Pinpointing- precisely identifying a movement cycle; (b) Recording and charting- collecting rate data and recording them on the standard behavior chart; (c) Changing- altering any specified component in the events before a movement, the movement itself or how it is defined, or the events after the movement (these components are referred to as an "Is" Equation until they have been analyzed and are referred to as a "Does" Equation

once some event is shown to have an effect on the rate of movements made or to be affected by them); (d) Try, try, try again- continuing to define or alter the components of the "Is" Equation until change occurs.

PROBE

A device or period of time used by a teacher to sample a child's behavior. In contrast to continuous records, which count a movement cycle every time it occurs, probes count a movement only during the special time set aside during the day for that purpose. The behavior may occur many times during the day (i.e., reading), but is counted only when the probe is given.

FOR A SAMPLE OF PROBES, SEE APPENDIX L.

RECORD CEILING

The highest value that a measurement can take. Record ceilings are imposed by the way we choose to measure or represent a child's performance, however, and may not reflect a limitation on the actual performance of the child. If the child's performance does exceed the value of the record ceiling, it will be recorded as if performance had simply reached the record ceiling.

RECORD CEILING, PERCENTAGE

The highest value which a percentage statement describing a performance can take. With performance percentage statements, the record ceiling will always equal 100% since a child cannot take advantage of more than 100% of all movement opportunities.

RECORD CEILING, RATE

The highest value which a rate statement can take. To calculate the rate record ceiling, divide the highest possible cycle count by the number of minutes over which the movement was assessed.

Rate record = highest possible count ÷ number of minutes assessed.

Example: If a child was given 100 problems to complete and exactly five minutes to work, the rate ceiling would be 100 ÷ 5 = 20 movements per minute. If a child is given an unlimited number of opportunities to move or the assessment is timed for only as long as the child has opportunities to move, there will be no rate record ceiling.

RECORD FLOOR

The lowest measurable performance, other than zero, in any given measurement situation. In simple movement cycle counts, the record floor will be recorded as zero. All possible performance measures in an assessment situation will be multiples of the record floor, and the only performance changes which can be recorded are those which are equal in size to the record floor (or some multiple of the record floor).

RECORD FLOOR, PERCENTAGE

The lowest non-zero value which a percentage statement can take. To calculate the percentage record floor, divide 1 (the lowest possible non-zero movement cycle count) by the total number of opportunities for movement, and then multiply by 100.

Percentage record floor = (1 ÷ the total number of opportunities) X 100.

Example: If a child's out-of-seat movements were observed for 100 minutes, then the rate record floor would be 1 ÷ 100 = 0.01 movement per minute. If a child's movements will be recorded as "zero" or "no count." The record floor also indicates the smallest

amount of change in the performance which can be measured. Unless the difference between two percentage statements is greater than the size of the record floor for either of those two statements, we cannot be sure that the difference between them is not simply due to the difference in the record floor.

RECORD FLOOR, RATE

The lowest non-zero value which a rate can take. To calculate the value of the rate record floor, divide one by the number of minutes spent on an assessment.

Rate record floor = 1 ÷ the number of minutes spent observing the movement.

Example: If a child's out-of-seat movements were observed for 100 minutes, then the rate record floor 1 ÷ 100 = 0.01 movements per minute. If a child's performance falls below the record floor, it will be recorded as "zero" or "no count." The rate record floor also defines the smallest amount of change in performance which can be realiably assessed. Unless the difference between two rates is greater than the value of the record floor for either of those two rates, we cannot be certain that the difference between them is not simply due to the difference in floors.

PROGRAM DESIGN

This personnel preparation program focused on providing inservice training that was to improve service delivery effectiveness for Special Education State Schools who provided a comprehensive array of educational services to identified emotionally disturbed, mentally retarded and cross-categorical children. The program objectives were.

1. To improve the ability of instructional, support, and leadership personnel to apply diagnostic, assessment and evaluation methods to emotionally disturbed, mentally retarded, and cross-categorically handicapped children in their classrooms.

2. To increase the ability of instructional, support and leadership personnel to integrate and adapt curricula appropriate to develop cognitive, psychomotor, affective and self-management skills and concepts.

3. To improve the ability of instructional, support and leadership personnel in planning and

implementing activities necessary for effective and efficient implementation of goals and objectives specified in the individualized education programs.

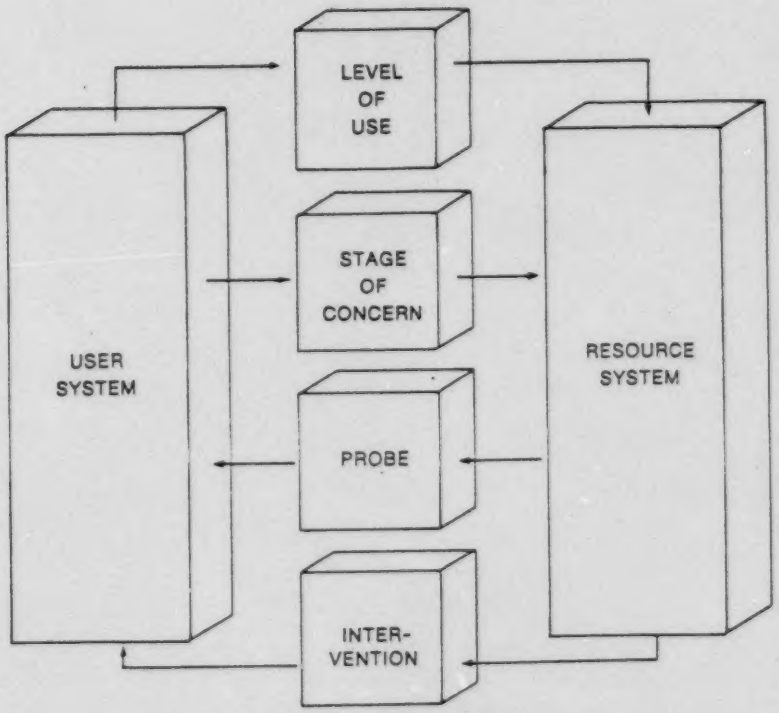
4. To improve the ability of instructional, support and leadership personnel to create, select and utilize materials and media appropriate for enhancing skill development and concept formation.

5. To increase knowledge of instructional, support and leadership personnel in the appropriate application of instructional and behavior management strategies and techniques essential for the attainment of skills and competencies.

6. To increase knowledge of instructional, support and leadership personnel in methods and techniques for structuring the physical classroom environment.

The Precision Teaching Institute program was built on a similar model as the Concerns-Based Adoption Model (CBAM) viz, an inservice program that provides training and support to help teachers increase their level of innovation. To do this the program must help resolve lower-level self and task concerns so that they may address themselves to higher-level impact concerns.

Elements of the CBAM



Source: R.B. Childress (Ed.) A Collection of inservice models. MidSouth Teacher Corps Network Projects, 1978.

The Precision Teaching Institute Program was offered in three cycles to a minimum of 90 instructional, support and leadership special education personnel. a minimum of 30 per cycle.

CYCLE I - Cycle I was conducted concurrently with Cycle II, Academic Year 1981-1982, It was proposed that the participants would attend (minimum of 30) the institute. The role groups would be: instructional personnel, support personnel, and leadership personnel for emotionally distrubed children.

CYCLE II - Academic Year 1981 - 82 (proposed)

The participants attending this institute will be a minimum of 30 instructional, support and leadership personnel for mentally retarded children.

CYCLE III - Academic Year 1982 - 83 (proposed)

The participants attending this institute will be a minimum of 30 instructional, support and leadership personnel for the visually impaired, communicatively and auditorially impaired, deaf-blind, learning disabled, orthopedically handicapped and other children who are health impaired.

OPERATION SCHEMA

Component I: Institute I offered a four week intensive Summer session which provided training that improved teaching skills and competencies. Each participant was assessed in relation to his or her teaching strengths and weaknesses. Based upon these assessments, a prescriptions was made which focused on remediation of specific deficiencies.

Component II: Institute II offered a field-based practicum in which the participants of this institute applied skills taught in Part I and implemented the plan in the agreement to achieve the goals established in part II. The practicum extended through the entire school year. The participants met weekly in three hour sessions which were designed to provide on-going assessment, evaluation and implementation assistance. Problems and difficulties were discussed and resolved. University faculty and school supervisors monitored the progress of the participants and provided technical on-site assistance in the participant's classrooms.

PROGRAM CALENDAR

Institutes I & II

April 1981	Needs Assessment
April 1981	Orientation and Application
June 1981	Administrators Leadership Conferences
July 1981	Registration
July 1981	Summer Institutes
September 1981	Fall Practica/Seminar Registration
January 1982	Spring Practica/Seminar Registration

EVALUATION MANAGEMENT

The major responsibility for the management of this evaluation falls within component 6.0 Project Coordination, Quality Control and Dissemination. Within this component the university staff will develop a detailed evaluation program and conduct the required activities. It will be conducted in a practical and ethical manner, that is, consuming only that amount of time necessary to do the task and without consuming an excessive amount of project teaching time. There will be adequate consideration for personnel rights and confidentiality. The evaluation will observe strict standards of objectivity, and accuracy. Reliable methods of analysis will be utilized where indicated and the results reported in a fashion so that the prime contractor, the Project Steering Committee and the trainees will be able to utilize the data for decision-making.

The above responsibility statement was an outgrowth of the direct charge in Memorandum 3/6/81, Article I, paragraph m; subject: Interagency Agreement between the University of the District of

Columbia and the District of Columbia Public Schools (Division of Special Education) for implementation of the Precision Teaching Inservice Training Institute Program.

Subsequently, this project was primarily concerned with a procedure called Output Analysis of four types of questions:

1. COMPONENT QUESTIONS: whether or not a particular component was planned in such a way that it was likely to meet its objectives.

2. ACTIVITY QUESTIONS: whether or not the training occured as planned.

3. ON-THE-JOB USAGE: whether or not trainees appropriately used skills, attitudes and knowledge in their classrooms.

4. ULTIMATE OUTCOME QUESTIONS: whether ultimate desired goals were achieved including changes in persons, products and organizations. (Evaluation Training Consortium, 1980).

The proposal, network and statements have been designed to supply data for evaluation. Several types of measurements were built into the actual training and were followed up by the university faculty.

The recognition of a program discrepancy between the real and the ideal is the first step in defining an educational problem. Once the problem has been defined, managable goals relative to it can be prescribed. This report is an attempt to layout the components of selected standards and performance so that subsequent action can be taken

The DISCREPANCY EVALUATION MODEL provides information for improving and assessing educational programs. It involves the comparison of some performance with a standard.

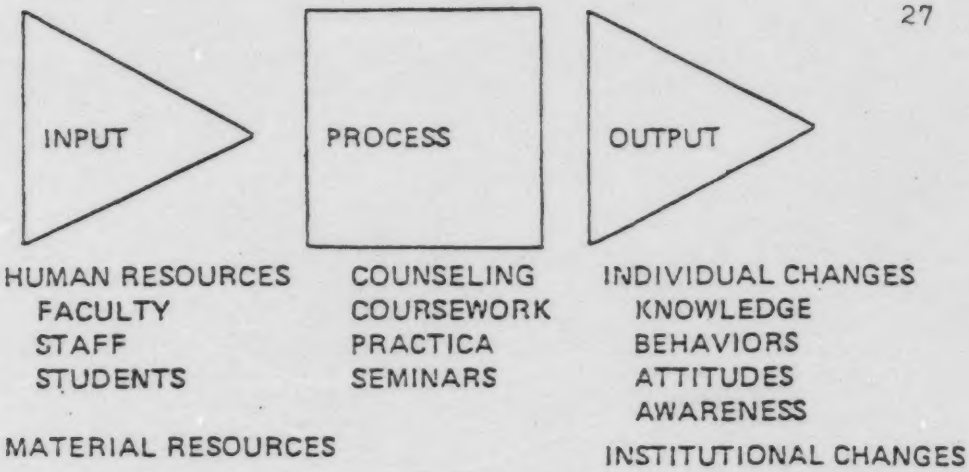
Any difference found to exist is called a discrepancy. Discrepancies may be positive, where performance exceeds the standard, or negative, where it falls short.

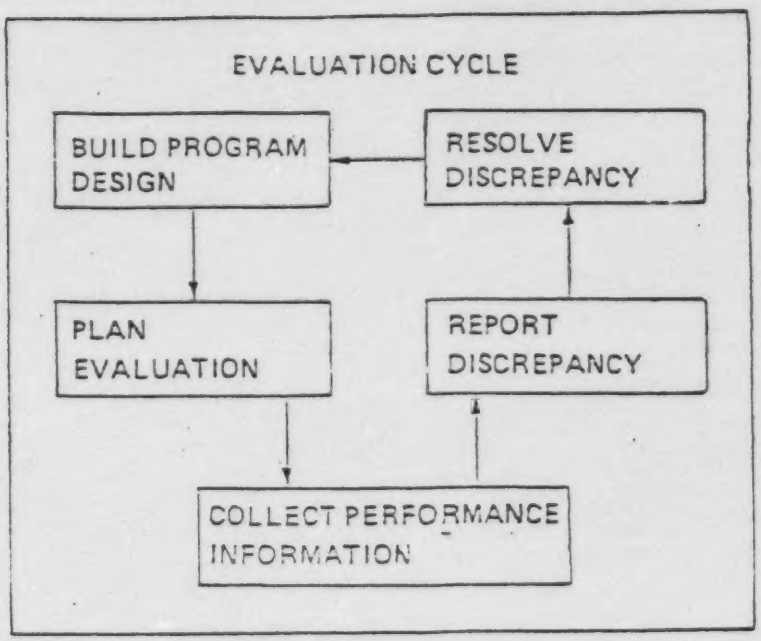
The types of action taken to narrow the "discrepancy" between standards and performances are:

1. CONTROL ——————→ PERFORMANCE

2. REDESIGN ——————→ STANDARD

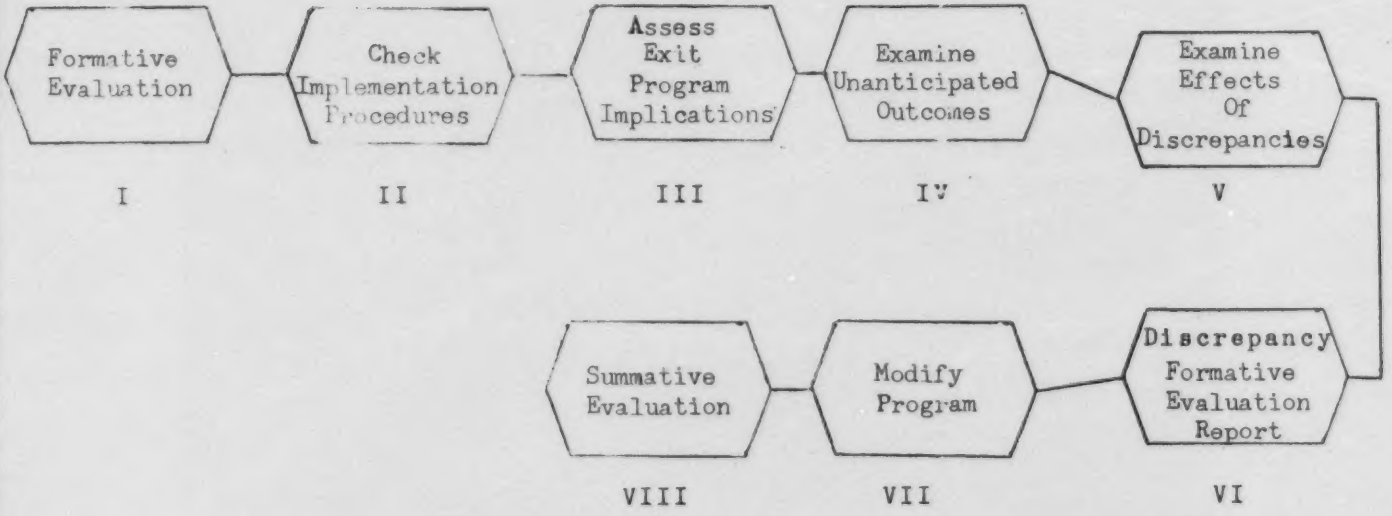
3. TERMINATION ——————→ PROGRAM





Source: Eval. Trng. Consortium:
U. of Va. & W. Mich U.

DISCREPANCY EVALUATION SYSTEMS APPROACH MODEL FOR DESIGNING INSTRUCTION



This report will be concerned with steps I-VI. The final cycle of the project will be concerned with steps VII-VIII.

SELECTED PROJECT GOALS

Participants will demonstrate knowledge and skill in planning, implementing and evaluating individual instructional programs by the appropriate application of diagnostic, assessment and evaluation methods.

Participants will demonstrate knowledge and understanding of the general education curriculum, and will demonstrate knowledge and skill in adapting instructional materials and strategies for multi-level programming within the classroom.

Participants will demonstrate knowledge and skill in selecting appropriate instructional materials.

Participants will demonstrate knowledge in planning and implementing activities for effective implementation of goals and objectives as specified on the Individualized Educational Plan (IEP).

Participants will demonstrate knowledge and skill in the selection of appropriate strategies for managing classroom behavior.

Select by a priority system target movement cycles for instructional change.

Accurately assess pupil movement changed according to physical properties and temporal (time-based) dimensions of behavior.

Devise standard methods of assessing the development of movement cycles with nonstandard materials and settings.

Interpret percentage and rate statements.

Select either a continuous record or a probe as appropriate for collecting movement cycle counts.

Select the appropriate device for recording movement (i.e., counters or timers).

Design and implement a self-correction system.

Record target movement data on the Standard Behavior Chart, using the Rate Finder to find floors, rates, ceilings and percentages.

Recognize and interpret charting conventions associated with the Standard Behavior Chart.

Apply acquired skills in precise description and measurment of behavior to the development of Individualized Education Programs for the target population.

Trainees will be able to identify and recall vocabulary, meanings, and conceptual elements of Precision Teaching methodology.

Trainees will be able to distinguish between accurate and inaccurate precision teaching charts, using a checklist rating scale developed by the university project staff, 100% accuracy required.

Trainees will be able to construct a behavioral agreement (supervisory contract) which identifies the specific goals their teachers will be expected to achieve during the practicum.

Trainees will be able to state the major principles of Group Techniques of Program Planning.

Trainees will be able to demonstrate principles of psychological consultation as demonstrated on video tape. Mastery of one strategy will be required.

Trainees will have completed the SEST Instrument for a second time and a self-assessment of their mastery of the performance objectives of the Precision Teaching Institute.

Trainees will be able to construct behavioral charts as a means of monitoring teacher behavior during the year following the Summer Institute.

Trainees are knowledgeable (can identify and recall) vocabulary, meanings, and conceptual elements of Applied Behavioral Analysis.

Trainees will be able to accurately paraphrase the essential components of White and Haring's Exceptional Teaching program.

Trainees will be able to construct an evaluation form for media/materials used in a precision teaching curriculum.

Participants will demonstrate knowledge and skill in designing and adapting alternative classroom organization systems.

Participants will demonstrate knowledge of services which are available to teachers to assist them in working with the emotionally disturbed, mentally retarded, and cross-categorical populations.

Trainees will be able to engage in the process of identifying, documenting, evaluating and sharing innovative classroom practicum practices within their disability site group.

Trainees will be able to define movement as it pertains to any target pupil behavior.

Identify precise movement cycles by delineating specific components of movement.

Calibrate movement cycle descriptions according to prescribed criteria.

Trainees will be able to organize a precision teaching program for use in their own classroom, using the principles and methods taught in the Exceptional Teaching workbook.

Each trainee will have constructed a university staff approved action plan, covering how the learning of the four week Institute will be applied during the practicum experience.

Trainees will have completed a self-assessment of their mastery of each of the performance objectives for the Precision Teaching Institute.

Trainees will be able to design and evaluate "high potency" assessment and instructional methods for their classroom group.

PROPOSED

There is substantial teaching material that was developed over the past 10 years for implementing a Pricision Teaching curriculum. This project used as its major source material that pinpointed target behaviors, developed precision teaching interventions, charted rates of response and evaluated changes. The core text was White and Haring's Exceptional Teaching.

All trainees were required to master each of the modules and to become proficient in precision teaching. In the Summer Institute trainees utilized a modification of the Personalized System of Instruction. Mastery level was 90% accuracy and over. On site practicums were arranged for field testing the newly acquired innovation of Precision Teaching.

The proposed outputs were:

Information on the present status of prospective trainees, analyzed and summarized into a written report.

A list of priortized goals for the four week Institute.

A statement of the knowledge, skills and attitudes needed to teach in each area, as judged to be so by the prospective trainees.

Information on the educational conventions, policies, and instructional thrust as seen by the State Office, the administrators of each site, the teaching staff, and selected parents.

Findings about the types of goals and short-term objectives specified in IEPs, average level of achievement of objectives, and data about the strengths and weaknesses of IEP development and implementation.

A training plan which specifies needs of each site group, objectives, a curriculum content statement, supportive activities and rationale guiding the overall clinical supervision effort.

A list of specific problems and issues which cannot be addressed by the Precision Teaching Project.

Information on the present status of leadership personnel analyzed from SEST administration, observations and interviews.

Negotiated Behavioral Contracts with each prospective trainee.

Trainees are provided with an opportunity to apply the skills and knowledge gained in 2.0 and 5.0.

Trainees gain experience and competency in precision teaching.

Leadership personnel gain experience in supervising precision teaching programs.

Improved instruction of handicapped students in each Cycle site.

Trainee self-assessment of their mastery of each of the performance objectives for the Precision Teaching Institute.

A file of request for technical assistance for analysis by project staff and use in the project evaluation report.

University staff notes on topics and problems of implementation and process on-site.

Completed Observational/Monitoring Checklist for each trainee.

Networks and IPO Statements from leadership study group with an emphasis on program development within each site.

A formal evaluation of the process of the Workshop conducted by the Project Steering Committee.

Trainees will demonstrate application competency in curriculum development for their disability group, program planning and evaluation for the handicapped.

For each Cycle, 30 high quality curriculum units which substantially improve student learning of concepts.

Evaluation data on a minimum of three administrative implementation programs designed to increase instructional support to teachers.

A product evaluation of the success and impact of the project using summative data from chart data on pupil progress.

In the project proposal there was a list of data collecting instruments designating how they would be used and what data would be collected. This evaluation report will add another dimension - the Potential Impact on the trainees or participants. The potential

outputs were:

INSTRUMENT: Precision Teaching/Individualized Instruction Concepts Assessment

MAIN USAGE: Assess individual level of achievement

POTENTIAL IMPACT: Was able to distinguish between accurate and inaccurate P T Charts, using a checklist rating scale developed by project staff with 100% accuracy.

From video tape was able to analyze student's strengths and weaknesses in clinical supervision. Used data in designing compensatory education during the practicum.

INSTRUMENT: Trainee Experience and Attitude Survey

MAIN USAGE: Seminar planning

POTENTIAL IMPACT: Was able to construct behavior charts as a means for monitoring teacher behavior during the Summer Institute and during the following school year.

Demonstrated the principles of psychological consultation as demonstrated by video tape. Mastery of one strategy required.

Was able to construct a behavior agreement which identified specific goals of expected achievement.

INSTRUMENT: Applied Behavioral Analysis Vocabulary Test

Exceptional Teaching Unit Examinations

MAIN USAGE: Trainee entry knowledge and learning

POTENTIAL IMPACT: Was able to accurately paraphrase the essential components of White and Haring's Exceptional Teaching program. Knowledgable of vocabulary, meanings and conceptual elements of applied behavior.

INSTRUMENT: Precision Teaching Institute Program Objectives Survey

MAIN USAGE: Attitude change baseline

POTENTIAL IMPACT: Trainees had individual approved Action Plans based upon the four week Institute. The action plan was applied in the practicum.

INSTRUMENT: School/Classroom Operations Schedule

MAIN USAGE: Monitor trainee progress with appropriate feedback

POTENTIAL IMPACT: Gained experience and competency in Precision Teaching. Was able to organize and implement a PT program in their classroom.

INSTRUMENT: IEP CHECKLIST

MAIN USAGE: Staff planning

POTENTIAL IMPACT: Obtained data about the strengths and weaknesses of IEP development.

INSTRUMENT: Performance Competency Self Assessment

MAIN USAGE: Designing practicum

POTENTIAL IMPACT: Demonstrate competency in curriculum development, program planning and evaluation of the handicapped.

INSRTUMENT: Adult Learning Concepts Test

MAIN USAGE: Asseses trainee knowledge and learning relative to Precision Teaching

POTENTIAL IMPACT: Statements of the knowledge, skills and attitudes needed to teach in each site area.

INSTRUMENT: SEST Instruments

MAIN USAGE: Project planning

POTENTIAL IMPACT: Was able to assess each of the performance objectives in the Precision Teaching program.

INSTRUMENT: Clinical Supervision Video Assessment

MAIN USAGE: Assessing training outcomes

POTENTIAL IMPACT: Obtained a detailed assessment of the trainees strengths and weaknesses for the purpose of designing a compensatory practicum experience.

Trainees were able to construct and evaluate media materials and other materials used in Precision Teaching.

The Goal Orientation Assessment form (see Appendix D) was devised by Wilma Smith of the University of Pittsburg and used with 10th Cycle Teacher Corps participants in the summer of 1977. The form was used this summer (1982) in an attempt to gather some project data from available project staff. This evaluation was conducted at a time when public school faculty and most of the university faculty are on summer recess. The assessment form was administered to two university project staff and followed up by an oral interview.

There were 35 Goal Orientation questions and their subparts. The results are as follows:

GOAL ORIENTATION RESULTS

Goal	Agree	Somewhat Disagree	Goal Completed	Goal Scheduled
1		*	*	
2		*	*	
3		*	*	
4	*		*	
5	*		*	
6	*		*	
7	*		*	
8	*		*	
9	*		*	
10	*		*	
11	*		*	
12	*		*	
13	*		*	
14	*		*	
15	*		*	
16	*		*	
17	*		*	
18	*		*	
19	*		*	
20	*		*	
21	*		*	
22	*		*	
23	*		*	
24	*		*	
25	*		*	
26		*	*	
27	*			*
28	*			*
29	*		*	
30	*		*	
31	*		*	
32	*		*	
33	*			
34	*		*	
35	*		*	

Of the 35 selected goals, there was 89 percent agreement on goal orientation and goal attainment on all components of each assessment question. Of the 35 selected goals, 92 percent (32) of them were completed. The goals were clearly understood by members of the project. The attainment of the goals required a great deal of individual responsibility, limited by individual functioning and there was little or no external constraints to goal orientation or goal attainment.

Evidence of goal attainment was documented or verified through the following activities:

1. Direct observations at teaching sites by school supervisors and principals.
2. Seminar, Workshop and Institute participation.
3. Special projects and class participation.
4. Classroom instruction.
5. Practicum experiences.

In "Performance Evaluation Measures" rating, using the rating scale below an approximate level of achievement can be obtained:

1 - No significant progress

2 - Performance between 50% of the measure

3 - Performance between 50% and 90% of the measure

4 - Performance within 10% ± of measure

5 - Performance exceeds measure by more than 10%

The PEM(s) were developed for the U.S. Department of Education's Strengthening Developing Institutions Programs. This data collection activity is required by Section 304 (c) (1) of P.L. 92-318.

Using the PEM to obtain achievement levels on the project's 35 selected goals, achievement is rated Level 3 - Performance between 50% and 90% of the measure on goal orientation and goal attainment. On goal completion, the project is rated Level 5 - Performance exceeds measure by more than 10%.

SUMMER INSERVICE INSTITUTE PRETEST AND POSTTEST RESULTS

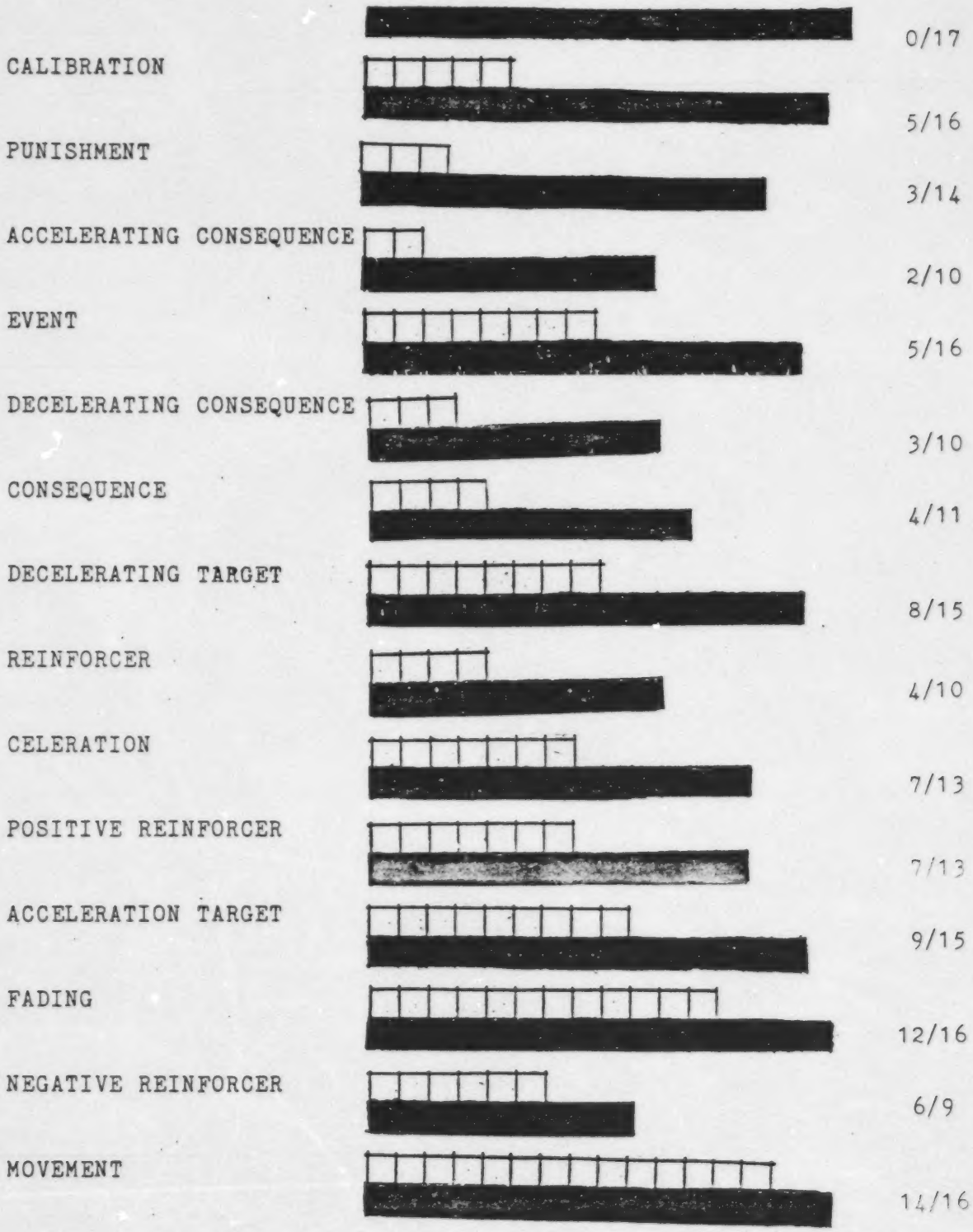
N=17

Terminology	Responses Pretest	Posttest	Change
Movement	14	16	+ 2
Calibration	5	16	+11
Movement Cycle	0	17	+17
Fading	12	16	+ 4
Accelerating Consequence	2	10	+ 8
Event	8	15	+ 7
Reinforcer	4	10	+ 6
Decelerating Consequence	3	10	+ 7
Negative Reinforcer	6	9	+ 3
Punishment	3	14	+11
Celeration	7	13	+ 6
Consequence	4	11	+ 7
Positive Reinforcer	7	13	+ 6
Acceleration Target	9	15	+ 6
Deceleration Target	8	15	+ 7

See questionnaire in Appendix I

SUMMER INSTITUTE PRETEST AND POSTTEST RESULTS N=17

Pretest □ Posttest ■



The four greatest amount of change occurred in increased posttest scores in terminology of Movement Cycle (+17), Calibration (+11), Punishment (+11) and Accelerating Consequences (+8). These gains indicated that the participants knew very little about behavior, how to count it and how to apply consequences.

The total correct responses were increased over 100% on posttests (92 corrects to 200 corrects). Using the PEM schedule the overall gains in terminology was rated Level 5 - Performance exceeds measure more than 10%.

PARTICIPANT SELF-APPRAISAL

INSTRUCTIONS: This instrument is designed to sample your personal opinion as to your competency level in major areas at this juncture in the program. Please indicate your response by checking one of the descriptors following each item.

Very High (VH) High (H) Adequate (A) Low (L) Very Low (L)

Your ability to: N=17	Frequency				
	VH	H	A	L	VL
Define Movement	7	9	1	0	0
Describe Movement Cycles	5	10	2	0	0
Write calibrated Movement Cycles	2	12	3	0	0
Select Movement Cycles for instructional change	9	5	3	0	0
Interpret Percentage and Rate statements	7	7	3	0	0
Select appropriate commercial Probes	6	9	2	0	0
Modify commercial Probes	8	7	2	0	0
Construct Probes	6	8	3	0	0
Administer Probes	13	2	2	0	0
Record movement data using the Rate Finder	8	7	2	0	0
Interpret & use Charting Conventions	2	10	5	0	0
Describe Assessment of Movement cycles	3	9	5	0	0
Interpret learning configurations	8	5	4	0	0

On the Participant Self-Appraisal instrument, all of the participants stated that they were average or better than average on the selected Precision Teaching skills. None of the participants stated that they were below average. The average frequency was 38 and the above average frequency was 184. Using the PEM schedule, the participants' Self-Appraisal was rated Level 5 - Performance exceeds measure more than 10%.

INSERVICE INSTITUTE PROGRAM EVALUATION

INSTRUCTIONS: Please check the responses following each item which expresses your opinion of the Summer Precision Teaching Institute. YES (Y) SOMEWHAT (S) NO (N) UNDECIDED (U)

N=17

CHARACTERISTICS OF CURRICULUM WHICH FACILITATE LEARNING	FREQUENCY			
	Y	S	N	U
Were your objectives clearly stated?	17	0	0	0
Was course content consistent with program objectives?	17	0	0	0
Were objectives met?	16	1	0	0
Was rigid schedule beneficial in completing the task?	12	3	1	1

CURRICULUM RELATED BEHAVIORS	FREQUENCY			
	Y	S	N	U
Were classes well organized?	14	2	0	1
Was the built-in on-site study helpful?	16	0	0	1
Was the flashcard exercise helpful?	9	2	2	4
Were the proficiency probes in the text adequate?	12	4	1	0
Did the study guides help you?	17	0	0	0
Were the media-paks helpful?	4	6	7	0
Did your instructor have mastery of the subject matter?	14	3	0	0
Were class presentations well planned and organized?	15	1	0	1
Was the class time well used?	14	3	0	0
Were important ideas clearly explained?	13	4	0	0

INSTRUCTIONAL BEHAVIORS	FREQUENCY			
	Y	S	N	U
Was instruction clear?	17	0	0	0
Did the Project Director facilitate classroom activities?	13	3	0	1
Was the Project Director available and approachable?	15	2	0	0
Do you feel that your administrators will be helpful with the implementation of the program in the Fall?	11	5	0	1
Do you feel that your administrators are interested in the project?	11	5	0	1
Was your instructor helpful?	16	1	0	0
Was it beneficial to be grouped with persons from your school?	16	1	0	0
Would it have been beneficial to combine the two target groups?	2	4	7	4

PERSONAL BEHAVIORS	FREQUENCY			
	Y	S	N	U
Would more practice have been helpful?	12	1	1	3
Did you like giving speeches on each chapter?	8	8	1	0
Did giving speeches for each chapter help develop fluency and comprehension?	14	3	0	0
Did your reading speed improve?	10	7	0	0
Did your reading comprehension improve?	15	2	0	0
Do you feel that your administrator should have taken this course with you?	13	2	1	1
Do you have a better working relationship with your co-workers as a result of this experience?	12	3	1	1

On the Inservice Institute Program Evaluation the participants scored Yes and Sometimes more often than No and Undecided on all categories and on all questions except one - the last question, (Would it have been beneficial to combine the two target groups?). The category that this question was in was Instructional Behaviors.

In the category of Characteristics of Curriculum Which Facilitate Learning the total Yes and Sometimes responses as opposed to No and Undecided responses were 66 to 2 respectively.

In the category of Curriculum Related Behaviors the total Yes and Sometimes responses as opposed to No and Undecided responses were 128 to 17 respectively.

In the category of Instructional Behaviors the total Yes and Sometimes responses as opposed to No and Undecided responses were 122 to 14 respectively.

In the category of Personal Behaviors the total Yes and Sometimes responses as opposed to No and Undecided responses were 110 to 9 respectively. On the PEM schedule the Inservice Institute Program Evaluation the project is rated Level 5 - Performance exceeds measure by more than 10%.

CONCLUSION

Of the three measures of data: Goal Orientation, Summer Inservice Institute Pretest and Posttest, the Participant Self-Appraisal and the Inservice Institute Program Evaluation all activities were rated Level 5 except one in part (Goal Orientation). Level 5 on the PEM schedule means that in those catagories- Performance exceeded measure more than 10%.

The goals of the project were further delineated into activities. These activities were incorporated into program contractual agreements between the university project staff and project participants. Samples of Contractual Agreements for subsequent academic semesters are shown in Appendix J.

Project governance was relegated to a minor level in this project and seemed not to affect the day to day operation or project management. The following responses were derived by asking the available project staff the following questions:

EVALUATIVE STATEMENT	RESPONSES YES	NO
Was a Steering Committee formed?	*	
If Yes, were lines of communication kept clear?	*	
Were concerns about the project heard in a systematic and professional manner?	*	
Problems that interferred with achieving the project's objectives were brought to the Project Director in a timely fashion?	*	
Did the Steering Committee assist in determination of how well objectives were accomplished?		*
Did the Steering Committee advise the Project Director on matters of work quality and project performance?		*

ISSUES AND RECOMMENDATIONS

The formulation of this report probably has generated more issues than answers. An issue may be defined as solvable questions that can be answered in several ways. The questions are formulated to determine what broad policy should be promulgated or what action should be taken to reach certain objectives. Issues that have been generated by this report are:

1. What steps should be taken to facilitate the transfer of the innovation to others as rapidly as possible?
2. How can the innovation be published and disseminated?
3. How can better data be obtained for use in planning refinement of the innovation?
4. How can barriers to the new innovation be removed?
5. How can the components of the new innovation be integrated into existing programs?
6. What steps can be taken to insure that the new innovation is being used?

The following recommendations can be made:

1. Follow-up evaluation on all components in subsequent cycles. A tighter evaluation design will help the project determine the extent of significance, if the change would have occured without the innovation and to what extent other variables intervened.
2. For pinpointing of discrepancies develop a problem-oriented evaluation system patterned after the Weed System. See Weed L. Medical Records, Medical Education and Patient Care. Chicago: Yearbook Medical Publications, 1971. The Weed System includes four component parts:

a. A data base, including items as history of group

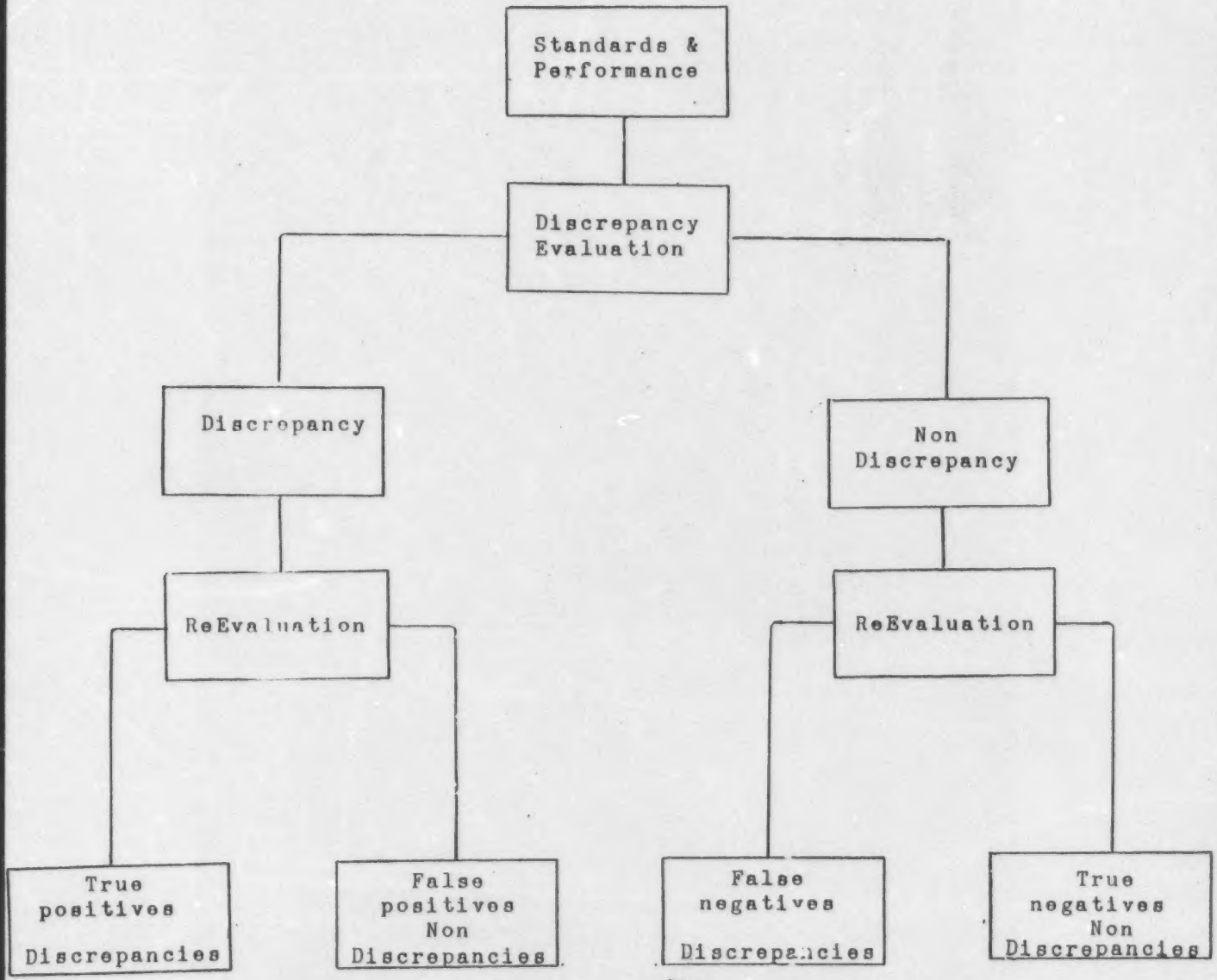
tried innovations, progress reports and milestones.

b. A problem list or a list of discrepancies.

c. A treatment plan or a discrepancy plan.

d. Follow-up including progress notes and flow charts (daily notes).

3. For continuous discrepancy monitoring and validation the project staff might develop a model similar to John Grant's model of Administrative Screening Flow Chart. See Schulberg and Baker, 1979. A modified version of his flow chart appears on the next page.


Standards & Performance
Discrepancy Evaluation
Discrepancy
Non Discrepancy
ReEvaluation
ReEvaluation
True positives Discrepancies
False positives Non Discrepancies
False negatives Discrepancies
True negatives Non Discrepancies

REFERENCES & BIBLIOGRAPHY

Brandstetter, G. et al. Precision Teaching For Decoding And Comprehension: Materials And Methods. ERIC Document Reproduction No. ED 144 033, 1976.

Cobbs, Price M. & Winokur, Diane K. Education for ethnic and racial diversity. Far West Teacher Corps Network, 1977.

ERIC. Keeping Up. A news bulletin of the Clearinghouse for Social Studies/Social Science Education, June 1975.

Ghory, W.J. & Cash, K. Improved Teaching In Urban Classroom: Applying More Precise And Demanding Standards. ERIC Document Reproduction No. ED 201 699, 1981.

Great Falls Public Schools. Educational Remediation For Children With Learning Disabilities Through Precision Teaching. Unpublished. 1976.

Phi Delta Kappa. Practical Applications Of Research. Bloomingdale, Ind.: 4 (3), March 1982.

Schulberg, H.C. & Baker, F. (Eds.) Program evaluation in the health fields, Vol. II, N.Y.: Human Science Press, 1979.

University of the District of Columbia Precision Teaching Inservice Institute Proposal, College of Education & Human Ecology, 1980.

White & Haring. Exceptional teaching, 2nd ed. Columbus, Ohio: C.E. Merrill, 1980.

APPENDIX A

PROGRAM ANNOUNCEMENT

DATELINE...SLRCH

State Learning Resource Center for the Handicapped

Summer 1981 D.C. Public Schools Vol 7 No. 3

Precision Teaching Institute

The Division of Special Education, in collaboration with the University of the District of Columbia, will sponsor a "Precision Teaching Institute" for Special Education personnel. The Institute will train three cycles of personnel who provide services to identified emotionally disturbed, mentally retarded, and cross-categorical children. Precision Teaching is a data-based behavioral instructional program whose format is designed to enhance the competencies of inservice teachers by building upon the foundation already established by their Competency Based Curriculum Training.

The first two Summer Institutes will begin in July, 1981, with follow-up Practicum and Seminars from September, 1981, through May, 1982.

The third cycle will begin the Summer of 1982.

*Awardeeships available contingent upon federal funds.

APPENDIX B

APPLICATION FOR PARTICIPATION

APPLICATION
FOR

PARTICIPATION IN THE UDC
PRECISION TEACHING INSTITUTE

PLEASE PRINT

NAME_____MISS. __MR.__MRS.__MS.___

HOME ADDRESS_____

_____ APT. # _____ ZIP_____

TELEPHONE ( ) _____

SCHOOL _____

BRIEF JOB DESCRIPTION (AREA OF TEACHING, ETC.)

_____

_____

_____

_____

_____

1. I have read the program describing the training activities to be conducted by UDC.
2. I have had an opportunity to attend an administrative orientation giving in my building and I have had an opportunity to ask questions of my immediate administrators.
3. I understand that my participation in the UDC Precision Teaching Institute will require completing the needs assessment activity, observations of classroom and my teaching and working with my peers in program activities.
4. I understand that the full training sequence will require:
    - 4.1 a four week Summer Institute designed to improve my teaching skills and competencies.
    - 4.2 a field based practicum extending through the entire academic year, with observation and technical assistance from UDC personnel.

4.3 a weekly three hour seminar for the entire academic year.

4.4 applying the learning from the four week institute in my own classroom.

5. I understand that it is the policy of UDC faculty to confine itself to technical assistance and neither to report nor to discuss classroom observations with anyone except me.

6. I understand that the year long, weekly seminar will be offered at a time not in conflict with my regular professional duties, i.e., after the school day.

7. I realize that participation in the Institute will differ from a traditional graduate course in the following demand and expectations of me:

7.1 It will involve a direct attempt to strengthen my teaching competencies through use of behavioral strategies.

7.2 It will require me to assume responsibility for working with my colleagues toward the implementation of Precision Teaching throughout.

8. I understand that my building administrator will be engaged in this training program and that I will be required to establish an agreement which identifies certain goals I will be expected to achieve during the practicum.

Having read this application form carefully and having had the opportunity to have UDC faculty answer all questions, I authorize UDC to conduct the Precision Teaching Institute in the manner prescribed. I understand that I must negotiate a Behavioral Learning Contract for participation in each specific component of the project.

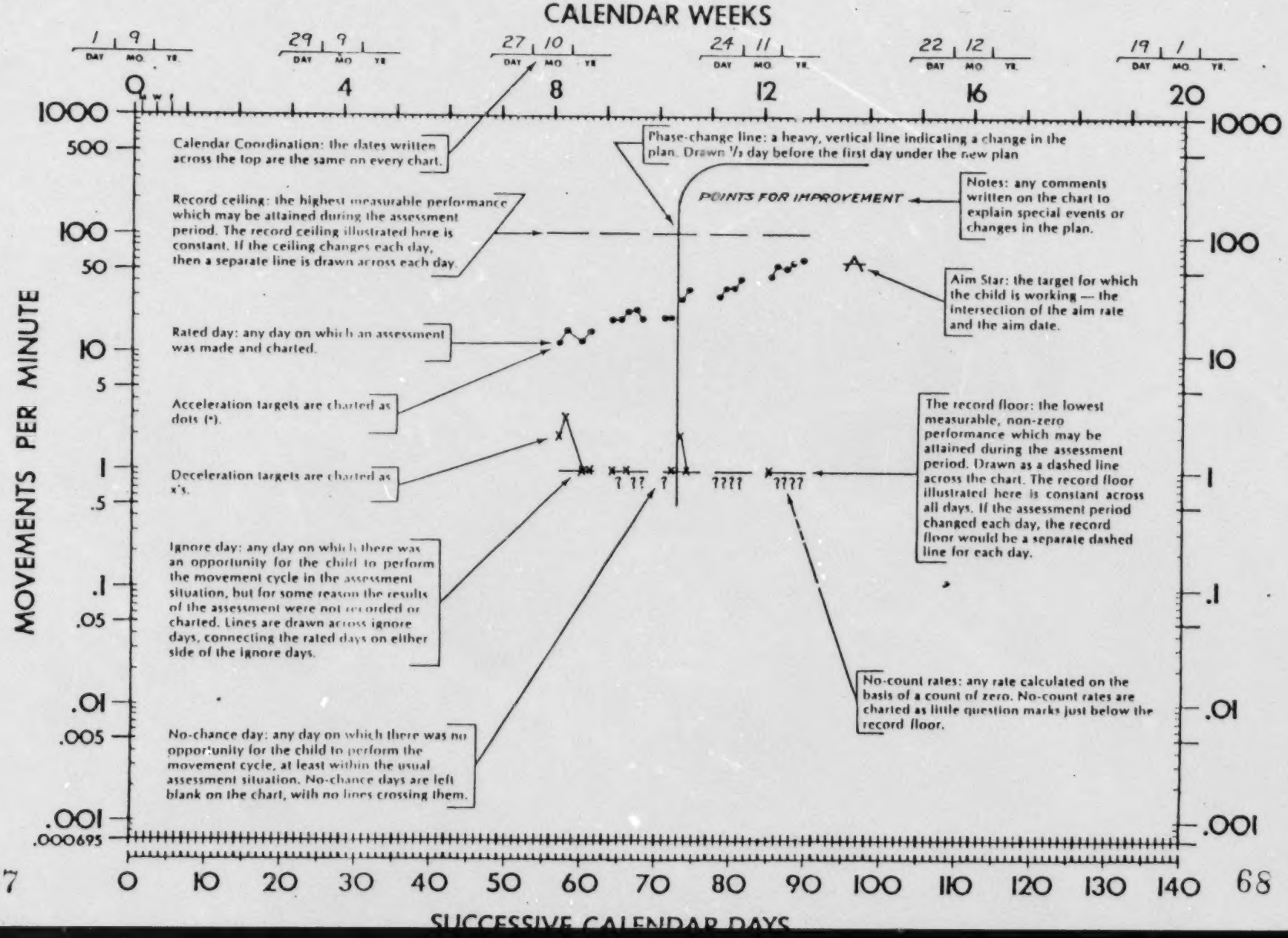
I hereby apply for participation in the UDC Precision Teaching Institute.

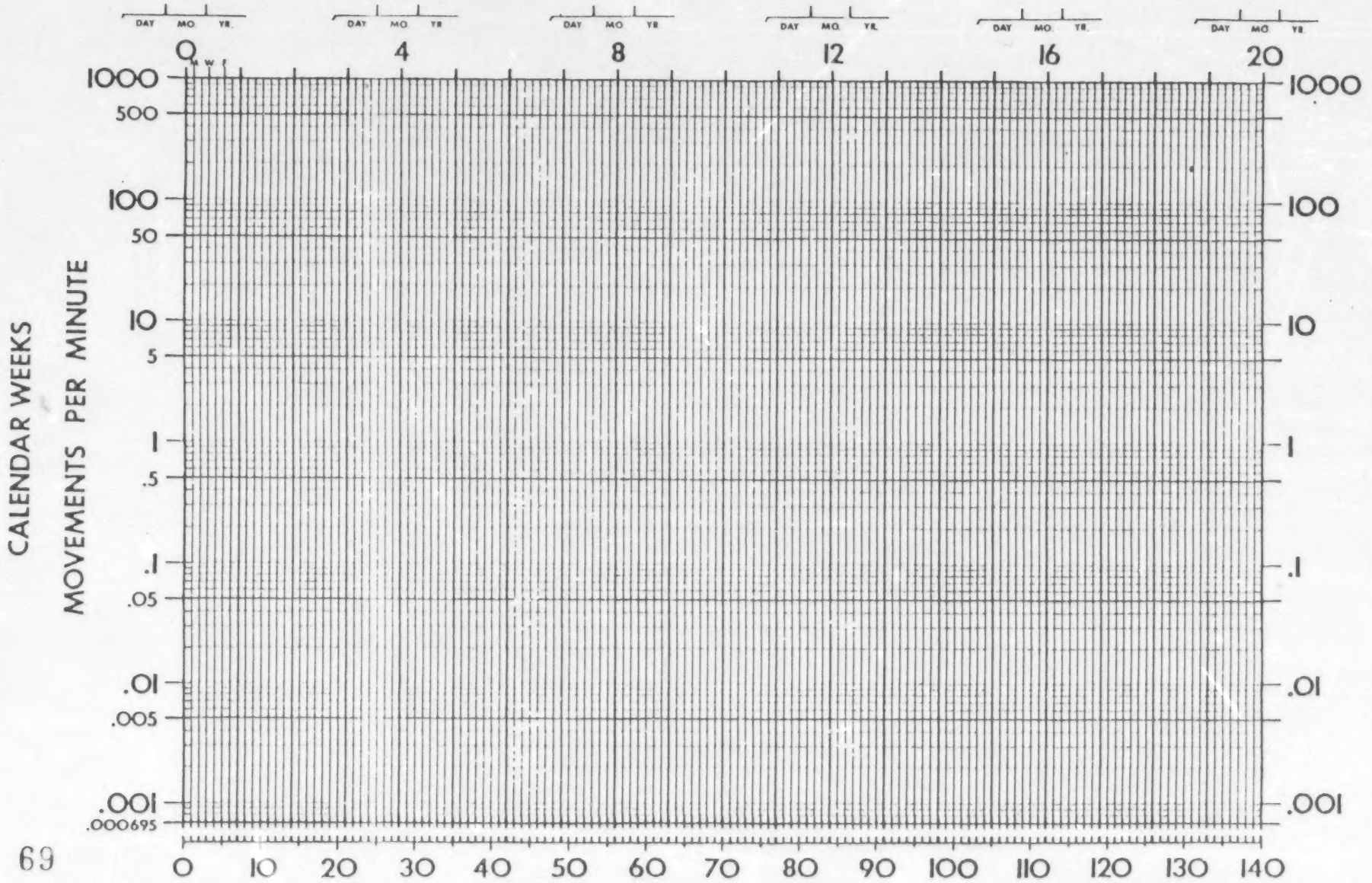
_____	_____
Signature of Applicant	Signature of Principal or Appropriate Supervisor
_____	_____
Date	Date

APPENDIX C

CHARTING CONVENTIONS

Charting Conventions


CALENDAR WEEKS
1 9 DAY MO YR.
29 9 DAY MO YR.
27 10 DAY MO YR.
24 11 DAY MO YR.
22 12 DAY MO YR.
19 1 DAY MO YR.
0 4 8 12 16 20
1000 500 100 50 10 5 1 .5 .1 .05 .01 .005 .001 .000695
MOVEMENTS PER MINUTE
Calendar Coordination: the dates written across the top are the same on every chart.
Phase-change line: a heavy, vertical line indicating a change in the plan. Drawn ½ day before the first day under the new plan
POINTS FOR IMPROVEMENT
Notes: any comments written on the chart to explain special events or changes in the plan.
Record ceiling: the highest measurable performance which may be attained during the assessment period. The record ceiling illustrated here is constant. If the ceiling changes each day, then a separate line is drawn across each day.
Aim Star: the target for which the child is working — the intersection of the aim rate and the aim date.
Rated day: any day on which an assessment was made and charted.
Acceleration targets are charted as dots (•).
Deceleration targets are charted as x's.
The record floor: the lowest measurable, non-zero performance which may be attained during the assessment period. Drawn as a dashed line across the chart. The record floor illustrated here is constant across all days. If the assessment period changed each day, the record floor would be a separate dashed line for each day.
Ignore day: any day on which there was an opportunity for the child to perform the movement cycle in the assessment situation, but for some reason the results of the assessment were not recorded or charted. Lines are drawn across ignore days, connecting the rated days on either side of the ignore days.
No-count rates: any rate calculated on the basis of a count of zero. No-count rates are charted as little question marks just below the record floor.
No-chance day: any day on which there was no opportunity for the child to perform the movement cycle, at least within the usual assessment situation. No-chance days are left blank on the chart, with no lines crossing them.
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140
SUCCESSIVE CALENDAR DAYS



69

PROJECT TEAM

SUPERVISOR _____ BEHAVER _____

ADVISOR _____ AGE ___ LABEL _____ MANAGER _____

COUNTER _____ CHARTER _____ NOTES _____

MOVEMENT CYCLE

NAME IT _____

COUNT WHEN _____

_____ OCCURS

APPENDIX D

GOAL ORIENTATION ASSESSMENT FORM

GOAL ORIENTATION

PURPOSE: Every system needs objectives or goals. Statements of educational goals or objectives reflect the educational philosophies and ends and means for an educational organization. In differentiating between a goal and an objective, a goal is intended to suggest a "statement of a program's expected accomplishments, the ultimate end being sought from the aggregate of activities which constitute the problem." The goal is abstract in content, broad in scope, long in range, and related closely to ultimate ends. (Institute for State Education Agency Planners, 1971, p. 10).

PROCEDURE: Step 1.

Review your project proposal for stated goal statements on the separate forms provided.

Step 2.

Assess each goal.

Assessment Form

GOAL ORIENTATION

GOAL 1: _____

_____

_____

_____

_____

1.1. Degree of Goal Understanding

To what extent has the goal been clearly understood by members of the study group?

_____ *To a great extent*

_____ *Quite a bit*

_____ *To some extent*

_____ *A little*

_____ *Not at all*

1.2. Involvement in Goal Implementation

What key individuals have been involved in the specific implementation of the goal?

_____ Director

_____ Other project staff

_____ University faculty

_____ School principal

_____ Other school personnel

_____ Project participants/trainees

1.3. *Motivation and Competence Associated with Goal*

1.3.1. *Motivation Associated with Goal*

To what degree have the individual(s) responsible for the implementation of this goal been sufficiently motivated to pursue and achieve this goal?

_____ *To a great extent*

_____ *Quite a bit*

_____ *To some extent*

_____ *A little*

_____ *Not at all*

1.3.2. *Competence Associated with Goal*

To what degree have the individual(s) responsible for the implementation of this goal been sufficiently competent to pursue and achieve this goal?

_____ *To a great extent*

_____ *Quite a bit*

_____ *To some extent*

_____ *A little*

_____ *Not at all*

1.4. *Risk Associated with Goal*

To what extent has there been a "risk factor" associated with the achievement of this goal?

_____ *To a great extent*

_____ *Quite a bit*

_____ *To some extent*

_____ *A little*

_____ *Not at all*

1.5. *Progress Toward Goal Achievement*

What progress has been made toward the achievement of this goal?

_____ *Excellent*

_____ *Good*

_____ *Somewhat good*

_____ *Not too good*

1.6. *Evidence Indicating Progress*

Utilizing your progress report, evaluation report, dialogue within the group, etc., state how progress has been determined.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

1.7. *Constraints Associated with Goal*

Identify constraints which limit or otherwise affect the achievement of this goal.

_____ *Relationship of participant organizations*

_____ *Structure of the project*

_____ *Time and scheduling*

_____ *Role perceptions*

_____ *Individual functioning*

_____ *Constituent participation (specify which constituent)*

_____ *External structures (specify)*

_____ *Internal structures (specify)*

_____ *Other (specify)*

APPENDIX E

TEACHER COMPETENCY SELF-ANALYSIS

PRECISION TEACHING INSTITUTE

Teacher Competency Self-Analysis

NAME _____

ROLE/RESPONSIBILITIES

_____

DIRECTIONS:

Please check the column which in your opinion most clearly indicates your present level of ability:

	NEEDS IMPROVEMENT	SATISFACTORY	EXCELLENT
To identify federal and state legislative requirements associated with the IEP	___	___	___
To develop an IEP for a handicapped student	___	___	___
To administer formal and informal diagnostic tests to determine level of functioning	___	___	___
To develop teacher-made evaluation techniques for individual student needs.	___	___	___
To develop a system to collect and record data by which to evaluate student progress toward goal attainment.	___	___	___
To formulate behaviorally stated objectives for each learner based on diagnostic information collected.	___	___	___
To determine long-range goals for students within the range of student ability.	___	___	___

	NEEDS IMPROVEMENT	SATISFACTORY	EXCELLENT
To analyze a task for the skills required to learn that task (task analysis).	---	---	---
To develop a daily lesson plan geared to the specific needs of the learner.	---	---	---
To serve as a supportive counselor for parents in implementing a planned program for the student' intellectual and social development.	---	---	---
To obtain information from and give information to parents, students and other professionals.	---	---	---
To utilize appropriate instructional strategies in the classroom with handicapped students.	---	---	---
To identify techniques for individualizing instruction to meet the specific learning needs of each student.	---	---	---
To design a variety of alternateive learning strategies for handicapped students who are unable to learn from commonly used strategies.	---	---	---
To modify activities within a wide range of difficulty so that students of varying abiliies can participate at their own level, pace and style.	---	---	---
To break tasks into component steps and teach in sequence.	---	---	---

	NEEDS IMPROVEMENT	SATISFACTORY	EXCELLENT
To identify methods of teaching social and vocational skills to handicapped students.	---	---	---
To use commercial and teacher-made instructional materials effectively.	---	---	---
To evaluate commerical materials in terms of efficiency in obtaining stated goals.	---	---	---
To identify potential sources of information for the selection and use of media and materials appropriate to the needs of students.	---	---	---
To identify potential sources of information concerning instructional materials and other resources.	---	---	---
To adapt instructional materials in accordance with the exceptionalities of the individual student.	---	---	---
To develop individualized programming for handicapped students using a variety of resources including peer tutors, community volunteers and self-instructional materials.	---	---	---
To apply behavior management skills in improving the academic performance and the general classroom behavior of handicapped students.	---	---	---
To describe educationally relevant characteristics of handicapping conditions.	---	---	---

	NEEDS IMPROVEMENT	SATISFACTORY	EXCELLENT
To assess the educational usefulness of criterion-referenced tests (IQ, achievement) in regard to evaluation of handicapped students.	---	---	---
To assess the ancillary services (speech therapy, physical therapy, etc.) required to meet the educational needs of a handicapped student.	---	---	---
To identify state and local criteria for special education services/placement.	---	---	---
To describe the functioning of a special services committee in regard to referral and evaluation.	---	---	---
To define what mainstreaming is and what it is not.	---	---	---
To assess educational placements in identifying the least restrictive appropriate placement for a handicapped student.	---	---	---
To identify federal and state legislative requirements associated with the principles of due process and parent participation.	---	---	---
To specify a plan of preventing due process hearings by obtaining necessary parental consent and involvement.	---	---	---
To state roles and responsibilities of participation in due process hearing.	---	---	---

	NEEDS IMPROVEMENT	SATISFACTORY	EXCELLENT
To communicate effectively with parents rewarding evaluation results and placement recommendations.	---	---	---
To conduct parent conferences related to reviewing the handicapped child's records and discussing proposed amendments.	---	---	---
To demonstrate in professional and personal interactions the protection of personally identifiable information.	---	---	---
To demonstrate classroom behaviors which constitute a problem.	---	---	---
To recognize the impact of the teaching situation on the child's behavior.	---	---	---
To implement appropriate and effective behavior management strategies in the classroom.	---	---	---
To structure the physical classroom environment to facilitate growth and learning for the target population.	---	---	---
To work effectively as a member of the interdisciplinary special services team.	---	---	---

APPENDIX F

TEACHER OPINION SURVEY

UNIVERSITY OF THE DISTRICT OF COLUMBIA
COLLEGE OF EDUCATION AND HUMAN ECOLOGY

PRECISION TEACHING INSTITUTE

Teacher Opinion Survey

NAME:_____

ROLE/RESPONSIBILITIES:_____

DIRECTIONS:
The following survey is designed to determine how you feel about a number of factors related to your profession as a teacher of handicapped pupils. We request your cooperation in answering all of the items.

Check each item below on the numerical scale of 1 to 5

SD strongly disagree SA strongly agree

1. My previous experience in teaching handicapped pupils is extensive.

   SD 1 2 3 4 5 SA

2. I have access to appropriate instructional materials for my pupils.

   SD 1 2 3 4 5 SA

3. I am competent in teaching handicapped pupils.

   SD 1 2 3 4 5 SA

4. The instructional recommendations made by the special services team in my school for the pupils in my class are effective.

   SD 1 2 3 4 5 SA

5. Handicapped and non-handicapped pupils should be educated in separate settings.

   SD 1 2 3 4 5 SA

6. Most parents are qualified to make educational decisions for their handicapped pupils.

   SD 1 2 3 4 5 SA

7. I am an effective member of the special services team.

SD 1 2 3 4 5 SA

8. Integration of handicapped and non-handicapped pupils, to the extent feasible, is mutually beneficial.

SD 1 2 3 4 5 SA

9. All children are entitled to a free and appropriate education in the least restrictive environment.

SD 1 2 3 4 5 SA

10. The training I have received as a teacher enables me to effectively teach pupils in my class.

SD 1 2 3 4 5 SA

11. The support provided by the school psychological and support staff enables me to satisfactory meet the needs of my pupils.

SD 1 2 3 4 5 SA

12. The support provided by the Principal enables me to serve pupils in my class adequately.

SD 1 2 3 4 5 SA

13. The equipment and materials available to me enable me to work effectively with children in my class.

SD 1 2 3 4 5 SA

14. Opportunities for professional growth and development are available to me.

SD 1 2 3 4 5 SA

15. I would rather teach average students than handicapped students.

SD 1 2 3 4 5 SA

16. The only fair way to grade students is to determine their knowledge of the subject matter of the ocurse.

SD 1 2 3 4 5 SA

17. Content, materials, and pace of instruction should be varied according to the abilities and needs of students.

SD 1 2 3 4 5 SA

18. Classroom teachers should not be expected to diagnose the educational needs of handicapped students.

SD 1 2 3 4 5 SA

19. Teachers should do as much as possible to improve knowledge and skills of all students, regardless of their abilities.

SD 1 2 3 4 5 SA

20. Most parents are important allies of teachers.

SD 1 2 3 4 5 SA

APPENDIX G

PARTICIPANT SELF-APPRAISAL

PRECISION TEACHING PRACTICUM/SEMINAR

PARTICIPANT SELF-APPRAISAL

This instrument is designed to sample your personal opinion as to your competency as a Precision Teacher.

Please indicate your response by circling one of the descriptors below:

VERY HIGH (VH) - HIGH (H) - ADEQUATE (A) - LOW (L) - VERY LOW (VL)

Your ability to:

1. Precisely describe movement cycles relative to pupil performance.

   VH H A L VL

2. Write calibrated movement cycle statements.

   VH H A L VL

3. Select movement cycles for instructional change.

   VH H A L VL

4. Select appropriate commercial probes to fit your situation.

   VH H A L VL

5. Modify commercial probes to fit your situation.

   VH H A L VL

6. Construct teacher-made probes to fit your situation.

   VH H A L VL

7. Administer probes to students in your situation.

   VH H A L VL

8. Chart movement data accurately.

   VH H A L VL

9. Interpret and use charting conventions.

VH H A L VL

10. Interpret learning pictures on the Standard Behavior Chart.

VH H A L VL

11. Make instructional changes based on specific decision rules.

VH H A L VL

12. Create and promote inservice precision teaching at your site.

VH H A L VL

13. Administer a One-minute timing.

VH H A L VL

14. Locate and use different record floors.

VH H A L VL

15. Administer a timing with two or more students at a time.

VH H A L VL

16. Administer a timing with one student at a time.

VH H A L VL

17. Administer a timing to the entire class.

VH H A L VL

18. Write articles for data-sharing.

VH H A L VL

PART II

Please respond to the following:

1. Check your preferred device for administering timings:

   _____ Stopwatch

   _____ Pre-recorded tape

   _____ Kitchen timer

   _____ Other (specify) _____

2. Indicate the method you used for charting:

   _____ Directly on Standard Behavior Chart (SBC)

   _____ Transferred data from Progress Record Sheet to SBC

   _____ Other (specify) _____

3. Indicate when did you do your charting:

   _____ Directly after timing

   _____ At end of each day

   _____ At end of week

   _____ Other (specify) _____

4. Student interest and involvement:

   a. Were your students interested in precision teaching?

   _____

   _____

   _____

   b. Did your students like taking timings?

   _____

   _____

   _____

c. Were your students motivated by seeing their SBC?

d. Did your students actively participate in charting on the SBC?

PART III

Comments: (use back of this sheet if necessary)

PARTICIPANT SELF-APPRAISAL

This instrument is designed to sample your personal opinion as to your competency level in major areas at this juncture in the program. Please indicate your response by circling one of the descriptors following each item:

VERY HIGH (VH) HIGH (H) ADEQUATE (A)

LOW (L) VERY LOW (VL)

Your ability to:

Define movement as it pertains to target pupil performance.
VH H A L VL

Precisely describe movement cycles relative to pupil performance.
VH H A L VL

Write calibrated movement cycle statements.
VH H A L VL

Select movement cycles for instructional change.
VH H A L VL

Interpret percentage and rate statements.
VH H A L VL

Select appropriate commercial probes to fit your situation.
VH H A L VL

Construct teacher-made probes to fit your situation.
VH H A L VL

Administer probes to students in your situation.
VH H A L VL

Record movement data using the rate finder to find record floors, ceilings, rates and percentages.
VH H A L VL

Interpret and use charting conventions on the Standard Behavior Chart.
VH H A L VL

Apply skills in precise description and assessment of movement cycles in the implementation of individual plans.
VH H A L VL

Interpret learning pictures on the Standard Behavior Chart.
VH H A L VL

APPENDIX H

INSERVICE PROGRAM EVALUATION

INSERVICE INSTITUTE PROGRAM EVALUATION

DIRECTIONS: Please circle the response following each item which nearly expresses your opinion of the Summer Precision Teaching Institute.

YES (Y) SOMEWHAT (S) NO (N) UNDECIDED (U)

Were your objectives clearly stated?
Y S N U

Was course content consistent with program objectives?
Y S N U

Were major objectives met?
Y S N U

Was instruction clear?
Y S N U

Were classes well organized?
Y S N U

Was the built-in on-site helpful?
Y S N U

Was the flashcard exercise beneficial?
Y S N U

Were the proficiency probes in the text adequate, or did you need more practice?
Y S N U

Would more practice have been helpful?
Y S N U

Did the study guides help you?
Y S N U

Did you like giving speeches on each chapter?
Y S N U

Did giving speeches for each chapter develop fluency and comprehension?
Y S N U

Did your reading speed improve?
Y S N U

Did your reading comprehension improve?
Y S N U

Was the rigid schedule beneficial in completing the task?
Y S N U

Were the media-paks helpful?
Y S N U

After reviewing the textbook, indicate the most meaningful sequential order that you think chapters should be presented if other than 1-13.

Chapter	1	4	8	12
	2	5	9	13
	3	6	10	
	4	7	11	

Was your instructor helpful?
Y S N U

Did your instructor have mastery of the subject matter?
Y S N U

Were class presentations well planned and organized?
Y S N U

Was class time well used?
Y S N U

Were important ideas clearly explained?
Y S N U

Did the Project Director facilitate classroom activities?
Y S N U

Was the Project Director available and approachable?
Y S N U

Do you feel that your administrators will be helpful with the implementation of the program in the Fall?
Y S N U

Do you feel that your administrators should have taken this course with you?
Y S N U

Do you feel that your administrators are interested in the project?
Y S N U

Do you have a better working relationship with your co-workers as a result of this experience?
Y S N U

Was it beneficial to be grouped with persons from your school?
Y S N U

Would it have been beneficial to combine the two target groups?
Y S N U

COMMENTS:

APPENDIX I

SUMMER TERMINOLOGY POSTTEST

SUMMER INSTITUTE TERMINOLOGY POSTTEST

Directions: Match the following definitions with the correct term:

_____ Any change in the position of the body.

_____ A way of fine-tuning descriptions of movements to be uniform from one observation to the next.

_____ Behavior selected as the instructional target.

_____ Gradually removing an instructional target.

_____ Any change in conditions in a student's world.

_____ Some object or condition a student works to avoid.

_____ Some object or condition which a student will work to earn.

_____ To strengthen behavior by adding something to the environment.

_____ To strengthen behavior by removing something from the environment.

_____ To add something to the environment which will weaken behavior.

_____ Any change in behavior.

_____ An event after a movement which affects the chances that the movement cycle will occur.

_____ An event after a behavior which affects the chances that the behavior will occur again.

_____ Behaviors desired to be increased in frequency.

_____ Behaviors desired to be decreased in frequency.

TERMS:

REINFORCER

DECELERATING CONSEQUENCE

MOVEMENT

EVENT

DECELERATING CONSEQUENCE

MOVEMENT CYCLE

NEGATIVE REINFORCER

CALIBRATION

ACCELERATION TARGET

FADING

PUNISHMENT

ACCELERATING CONSEQUENCE

CONSEQUENCE

POSITIVE REINFORCEMENT

CELERATION

NAME _____ DATE _____

APPENDIX J

CONTRACTUAL AGREEMENTS

PRECISION TEACHING SEMINAR/PRACTICUM

CONTRACTURAL AGREEMENT

I. _____, understand that the following are requirements of the Precision Teaching Seminar/Practicum and are expected of me as a participant:

I. Seminar - Attendance as required

II. Practicum

A. A minimum of two different projects covering a six-week period

B. Project should be conducted with a minimum of two different students

C. An oral report of each project to be presented at a seminar session to be desiginated

D. A written report to be typed and submitted which must include:

1. Background data to support projects (case history of selected student/s)
2. A description of procedure used
3. A copy of all assessments used
4. Six-week charting on Standard Behavior Chart
5. Daily or weekly log of screening sessions

As a consequence of fulfilling this contract, the instructor will assign me a grade of A.

Date_____Signed_____
(student)

Date_____Signed_____
(instructor)

PRECISION TEACHING SEMINAR/PRACTICUM

CONTRACTURAL AGREEMENT

I, _____, understand that the following are requirements of the Precision Teaching Seminar/Practicum and are expected of me as a participant:

(1) Weekly attendance at all seminars is expected and required

(2) Ten (10) Weekly Precision Teaching Reports as described or otherwise approved

(3) One (1) current Journal Article as described

(4) A joint presentation of Handout Article as described

(5) Writing of an article in journal format as described

(6) Completed Standard Behavior Charts for entire classroom population

It is expected that the components of the contract will be executed in a professional manner at a graduate level.

Having fulfilled the contract as stated above, I shall receive a grade of A.

Date_____ Signed_____
(student)

Date_____ Signed_____
(instructor)

APPENDIX K

SAMPLE OF WORKSHOP CONTENT

TEACHING AND LEARNING in Plain English

Patrick McGreevy, Ph.D.
P.O. Box 7224
Kansas City, Missouri 64113
(816) 436-6349

Performance and Learning Check

Instructions: Read the sentences and write as many answers as you can in three minutes.

Performance Aim: 60-45 answers in 3 minutes (20-15 answers per minute).

"John reads words from Sullivan Book 1A" is a _____. You could count _____. You should select a movement you can _____ and work with _____ each day. If a movement could "normally" happen only a few times each day, you should set up a _____ each day to practice the movement at least _____ times. Complicated movements like "Mary tries her shoes" should be divided into at least _____ simpler movements for easier counting and teaching. A slice back is a _____ movement or slice of the original movement. A step back is a movement that is supposed to be _____ than the original movement. A tool movement is a _____ movement necessary to perform the original

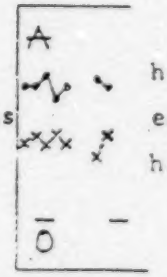
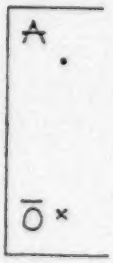
movement. The counting period is the amount of time you spend each day _____ the movement. This time should be _____ each day. The task you select should be _____ pair. The learning channel set for this exercise is _____. Learning channel sets remind us that there are _____ for a child to learn the same task.

You should set an aim for your child's task that is a smooth, natural _____ with "0" or near "0" incorrects. When she reaches her aim and "0", she will know how to perform the task _____ and without _____. Count and teach _____ task each day until your child reaches aim and "0" or until his _____ tells you to make a change. Teaching is a combination of four activities:

1. what you do _____ either the correct or incorrect movements;
2. what you do _____ the correct movement happens;
3. what you do _____ the incorrect movement happens; and
4. how you _____ the task with your child.

When you change the instructional materials or directions, it is called _____ CHANGE. A reward is something you give your child _____ she makes the correct movement.

		circle one	circle one
This task is		easy to do hard to do hard to learn	continue what you are doing make a change

		circle one	circle one
This task is		easy to learn hard to do hard to learn	continue what you are doing make a change
This task is		hard to learn easy to do hard to do	continue what you are doing make a change
This task is		easy to learn easy to do hard to do	continue what you are doing make a change

It makes the correct movement happen _____. The most natural and common type of reward is _____. When you use a reward like candy or juice, always use _____ with it. If you decide to use a reward like an electronic games, use a _____ reward with it.

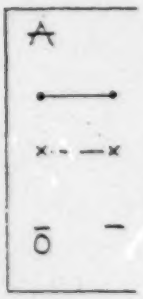
When your child is first learning to perform the task, " _____ gets it started." As your child gets closer to the aim and "∪", _____ keeps it around." An incorrect movement like "Joanna tips over chairs" cannot be _____. Have her "put it back the way it was _____," and "practice _____ over and over." A penalty is something you _____ your child immediately after she makes the incorrect movement. Both make the incorrects happen _____. First try a _____ . Use _____ penalty each day. Be sure to reward your child every time she makes the _____ movement. If the penalty does not decrease the incorrect movement to _____ in a few days, change to a different penalty. If a second penalty doesn't work, ask for help or try a _____. Use the same rules for punishment that you did for _____. If you find yourself getting angry, _____ using punishment and ask for help. When you change the reward, penalty or punishment, it is called _____ CHANGE. Be sure to have your child _____ making the correct movement often each day.

circle one

The name for this learning picture is _____

continue what you are doing

make a change



The name for this learning picture is _____

continue what you are doing

make a change

The name for this learning picture is _____

continue what you are doing

make a change

APPENDIX L

SAMPLE PROBES

Name_____Date_____Time 1 min._____

Checked by_____Count_____Errors_____Correct_____

SEE TO SAY: Defining Words

Say the correct word phrase which tells what each affixed word means.

_____ful - filled with re_____ - again

_____er - one who un_____ - not

joyful	painful	hopeful	thoughtful	cheerful	(15)
worker	singer	dancer	teacher	reader	(30)
rejoin	rebuild	rerun	reprint	redo	(40)
unhappy	unwilling	unlucky	unequal	unknown	(50)
refill	unfair	shameful	repaint	player	(62)
joyful	worker	untidy	rejoin	unhappy	(74)
painful	singer	rebuild	unwilling	hopeful	(87)
dancer	rerun	unlucky	thoughtful	teacher	(100)

© Brandstetter, Merz, 1975

29

Name_____ Date_____ Time 1 min._____

Checked by_____ Count_____ Errors_____ Correct_____

SEE TO SAY: Affixes- Building Words1

Say th affixed word which corresponds to each phrase.

_____ous - filled with dis_____ - not

_____ment - act or state of being _____ or— one who, thing, which

---

filled with mountains filled with danger filled with poison (9)

filled with hazards filled with humor filled with fame (18)

not obey not agree not loyal not connect not agree (33)

not like not comfort not appear not regard not infect (48)

act of moving act of judging state of agreeing state of enjoying (60)

state of being contented state of being amused state of agreeing (69)

one who invents one who protects one who collects (78)

things which reflects things which projects one who protects (87)

© Brandstetter, Mara, 1975